

**REMARKS**

Claims 1-60 are pending. The final office action mailed June 16, 2003 rejected claims 1-60. Claims 1, 37, 38, 40, 50, 55, 59, and 60 have been amended to further clarify a limitation already taught and does not further limit the scope of the claimed invention. No new matter has been added by these amendments. For the reasons discussed in detail below, Applicants submit that the pending claims are patentable over the art of record.

**Rejection under 35 USC 102**

The Office Action has rejected Claims 38, 39, 50, 51, 54, 55, 59, and 60 under 35 U.S.C. §102(a) as being unpatentable over U.S. Patent No. 5,774,660 to Brendel, et al. ("Brendel"). Regarding Claim 38, the Office Action referenced particular sections of Brendel (Column 2, lines 27-32, Column 6, lines 56-57, and Column 7, lines 15-16) that allegedly teach each element of the claimed invention. Applicants respectfully disagree.

Amended Claim 38, subparagraph (e) teaches, among other things, "employing the EDNS system to balance the load on a plurality of virtual servers that provide access to resources associated with the domain name by selecting one of the plurality of virtual servers that optimally balances the load, **the load being determined out of band....**" (emphasis added).

Amended Claim 50, subparagraph (c) (ii) teaches, among other things, "collecting the metric information **out of band** related to communication between at least one local DNS... and at least one of the plurality of virtual servers...." (emphasis added). Amended Claim 55, subparagraph (b) (i) teaches, among other things, "collecting metric information **out of band** that is related to the plurality of virtual servers, wherein the metric information is employable for determining the load on at least one of the plurality of virtual servers." (emphasis added). Amended Claim 59,

subparagraph (a), similarly teaches collecting “metric information **out of band....**” (emphasis added). Additionally, amended Claim 6, subparagraph (b) teaches, among other things, a means for “collecting metric information **out of band....**” (emphasis added). Clearly, the claimed invention teaches selection of a server that optimally balances a load, where the load (metric information) is determined out of band. (Page 3, line 32 through page 4, line 7).

In contrast, Brendel discloses maintaining a directory table of the locations of different files and resources on a web site, and selecting a server based on locating of a server in a table that has resources that are specified in a user request (Brendel, Col. 10, lines 56-58). Nowhere in Brendel is an out of band determination of a load on a plurality of servers suggested or disclosed. Thus, Brendel does not anticipate or make obvious at least this element of the claimed invention. Therefore, for at least the above reasons, independent claims 38, 50, 55, 59, and 60 as amended are allowable.

Furthermore, claim 39 is dependent on independent claim 38, and claims 51-52 and 54 are dependent on independent claim 50, and are allowable for at least the reasons given above for those independent claims.

### **Rejection under 35 USC 103**

The Office Action has rejected Claims 40-43, 45-48, and 52 under 35 U.S.C. §103(a) as being unpatentable over Brendel in view of U.S. Patent No. 6,446,121 to Shah et al (hereafter “Shah”). The Office Action has also rejected Claims 1-7, 16-22, 30-33, and 37 under 35 U.S.C. 103(a) as being unpatentable over Brendel in view of U.S. Patent No. 6,173,322 to Hu (hereafter “Hu”). Applicants respectfully traverse these rejections under 35 U.S.C. §103.

Regarding Claim 1, the Office Action referenced sections of Brendel (Column 6, lines 20-26, and column 7, lines 19-23) that allegedly teach limitations of the claimed invention. Applicants respectfully submit that Brendel does not teach or suggest the claim limitations as indicated.

In particular, Brendel does not disclose the claimed method for balancing the load on a plurality of servers by **resolving** an Internet protocol (IP) address of the selected server, based on the determination for optimally balancing the load, so that accessing of the resources associated with the domain name will cause the load to be optimally balanced on the plurality of servers on a network as recited by amended Claim 1. Amended Claim 37, subparagraph (b) (iii), and amended Claim 40, subparagraph (c) (iii) each describe a similar limitation.

As commonly understood, the resolving step entails changing a domain name included with a request into a corresponding IP address that is provided in a response to the request. Further, the claimed invention provides for resolving an IP address that is associated with a selected server in such a way as to enable the optimal balancing of the load on a plurality of servers if (not when) a client accesses the resource with the resolved IP address. (Page 6, lines 28-30). Clearly, the claimed invention does not provide for automatically initiating a connection to the resource in response to a domain name request as taught by Brendel.

Brendel teaches a load balancer to decode a URL request to determine a requested resource and assigning the URL request to a node that contains the requested resource. Brendel further discloses automatically transferring the requesting client's connection and session set up to the assigned node, which reads and transmits the requested resource to the client. (Column 7, lines 1-13). Thus, Brendel does not disclose or suggest optimally balancing the load on a plurality of servers as taught by amended Claim 1, subparagraph (c), amended Claim 37, subparagraph (b) (iii),

and amended Claim 40, subparagraph (c) (iii). Therefore, for at least the reasons discussed above, amended independent claims 1, 37, and 40 are not made obvious in view of Brendel.

Regarding Claims 4-6, Brendel does not disclose or suggest when the primary DNS determines the domain name is delegated to a EDNS, enabling the primary DNS to refer the local DNS to the EDNS to resolve the ip address for the selected server. Nor does Brendel teach or make obvious employing the referred EDNS to use at least one of a plurality of load balancing determinations to select one of the plurality of servers and resolve the ip address for the selected server. The specification teaches that the claimed extended DNS systems (Primary and Secondary EDNSs) are substantially different from a local or primary DNS system, such as that briefly mentioned in Brendel. In fact, the specification provides separate definitions to make the distinction clear between the different functions performed by DNS and EDNS systems. See page 4, line 27 through page 5, line 31. Additionally, Brendel teaches that a DNS system operates separately from a load balancer in both function and form. Thus, Claims 4-6 is unobvious in view of Brendel for at least the reasons stated above, and because Claims 4-6 each dependent are dependent on amended independent Claim 1.

Regarding Claim 7, Applicants submit that Brendel does not teach or suggest a primary EDNS to collect metric information employed by the selected load balancing determination to select the server to provide access to the resources associated with the domain name. Rather, Brendel discloses a completely different application. Brendel discloses a load balancer, to perform resource-based load balancing to choose an assigned node. (Col. 6, lines 53-58). Nowhere in Brendel is there any teaching or suggestion of the claimed operation of a DNS system. Nowhere in Brendel is there any teaching or suggestion of an EDNS system. Thus, Claim 7 is not made obvious in view of

Brendel. Claim 7 is thus allowable for at least this reason, and because it is dependent on allowable independent Claim 1 as amended.

Thus, with respect to Claims 16-17, Brendel does not teach using an EDNS or a server array controller as defined in the specification at page 4, lines 10-18. Brendel instead, discloses employing a load balancer that communicates over a local network by selecting NIC addresses. See Col. 10, lines 9-13. Therefore, for at least this reason, Claims 16-17 are not made obvious in view of Brendel. Moreover, because Claims 16-17 are dependent on independent Claim 1, they are also allowable for at least the reasons given above for amended Claim 1.

With respect to Claim 19, Brendel does not teach or suggest an agent program that collects the metric information and communicates the collected metric information to the EDNS when the EDNS is not resolving the ip address for the resources associated with the domain name request. Rather, Brendel teaches a load balancer that is a program (in an application layer above the TCP layer). Additionally, Brendel does not teach an EDNS system, or any kind of DNS system that receives metric information collected by an agent. Thus, for at least this reason, Claim 19 is not made obvious in view of Brendel, and should be allowed. Therefore, for at least this reason and because Claim 19 is dependent on allowable amended independent Claim 1, Claim 19 is also allowable.

Referring to Claims 21-22, Brendel does not disclose the claimed wide ip data structure that is described in the specification as a statement for mapping a domain name to a set of virtual servers managed by server array controllers and host machines. (Page 6, lines 20-33). Rather, Brendel merely discloses using a cached ip address to retrieve files from a remote server in a server farm. The cached ip address is used to initiate a communications session with a remote server. (Col. 2,

lines 36-43). Brendel does not disclose the claimed wide ip nor, as discussed above, an EDNS system. Thus, Claims 21-22 are not made obvious in view of Brendel. Additionally, because Claims 21-22 are dependent on Claim 1, they are also allowable for at least the reasons given above for amended independent Claim 1.

Additionally, dependent claims 2-3, 18-20, 30-33, 41-43, 45-48, and 52 are submitted as patentable over Brendel for at least because the dependent claims depend from other claims that are submitted to be patentable.

### CONCLUSION

In view of the above, Applicants respectfully submit that claims 1-60 are now in a condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If the Examiner believes that contact with the Applicants' attorney would be advantageous toward the disposition of this case, Examiner is herein requested to call the Applicants' attorney at the phone number noted below.

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